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BROADBAND ANTENNAS, FILTERS AND DETECTORS

Purpose: To determine the feasibility of developing a broadband system for the 50 mc to 40 kmc frequency range.

Personnel: Electrical Engineers:

Status: The investigation of commercially available crystals and holders is nearing completion. Some holders and crystals have proved to have very good sensitivity over very wide ranges. Detailed comparisons between various holders and crystal combinations will be presented in the final report.

25X1

Evaluation of the low frequency cut off characteristics of the printed log periodic antennas is continuing. Results to date have been inconclusive but it now looks like the cut off characteristics will be sharp enough to provide high pass filtering.

A little work remains to be done on the waveguide-dielectric slab scheme for the 10-40 kmc range. Excellent patterns have been obtained from horns fed in this manner by extending the dielectric part way into the flare of the horn. Detailed characteristics of this system will be presented in the final report.

Future Plans: The low frequency cut off characteristic study will continue. It is hoped that all work can be completed by 15 November when preparation of the final report will begin.

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